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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER
HOLLIDAY, JAIME MICHELE

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
06/17/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

Office Action Summary	Application No.	Applicant(s)	
	09/587,668	CHEN, TAO	
	Examiner	Art Unit	
	JAIME M. HOLLIDAY	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/30/10*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-31,33-35 and 37-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-31,33-35 and 37-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed March 30, 2010 have been fully considered but they are not persuasive.

Applicants basically argue that that the prior art of record, in particular, Jalali et al., fails to teach or suggest "increasing a target signal-to-noise ration of a reverse link pilot channel," because the previously mentioned reference teaches that the radiotelephone transmits a power up or power down command.

Examiner respectfully disagrees, because the reverse link pilot channel of the Jalali reference transmits the power up or down command to the base station, reading on the claimed "reverse link pilot channel carrying at least one of the power control signals for at least one of the plurality of base station transceiver," after its target E.sub.s /N.sub.o is modified, either increase or decreased, reading on the claimed "increasing a target signal-to-noise ration of a reverse link pilot channel," (col. 6 lines 38-66).

Therefore, in view of the preceding arguments, Examiner maintains previous rejection, and this action is made **FINAL**.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. **Claims 29-31, 33-35 and 37-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chheda et al. (US 6,515,975 B1)** in view of **Jalali et al. (6,154,659)**, and in further view of **Moon (US 6,567,391 B1)**.

Consider **claim 29**, Chheda et al. clearly show and disclose a method comprising: detecting an unbalanced quality of power control signals from a wireless device simultaneously received at a plurality of base station transceivers involved in a soft handover, wherein the unbalanced quality is determined based on qualities of power control signals from each of the plurality of base station transceivers involved in the soft handoff (BTS sending forward link signals to MS and receiving power control channel signals; each of the BTSs sends the bit energy to noise density estimate and current transmit power to a central location such as BSC; if any output powers incremental difference are found to exceed a predetermined threshold, these BTSs are instructed to use power output of the BTS(x) (the best) [col. 1 lines 15-28, col. 2 lines 37-53, col. 4 line 60- col. 5 line 33]).

However, Chheda et al. fail to specifically disclose that the SNR of a pilot channel is increased.

In the same field of endeavor, Jalali et al. clearly show and disclose increasing a target signal-to-noise ratio (SNR) of a reverse link pilot channel carrying at least one of the power control signals for at least one of the plurality of base station transceivers when the quality of the at least one of the power control signals for the at least one of the plurality of base station transceivers is below a predefined target signal quality (in order to modify the target E.sub.s /N.sub.o, the quality of each received frame is

determined; if the particular received frame was bad, the target is increased a predetermined amount; a reverse link pilot channel is employed to perform coherent demodulation of the reverse power control signaling; power change commands are transmitted using a reverse power control signaling [fig. 1, col. 6 lines 38-66]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the energy to noise density based on quality of the received frame from the base station as taught by Jalali et al. in the method of Chheda et al., in order to implement power control during a soft handoff.

However, Chheda et al., as modified by Jalali et al., fail to increase the transmit power level of the pilot channel from the wireless device decrease a power gain of other channels.

In the same field of endeavor, Moon clearly shows and discloses increasing a pilot channel transmit power level of the pilot channel transmitted by the wireless device during a handoff in response to the at least one of the plurality of base station transceivers (mobile station increases transmission power [fig. 2, col. 3 lines 46-65, col. 6 lines 6-14]); and decreasing a power gain of other channels transmitted by the wireless device in relation to the increased transmit power level of the pilot channel of the wireless device during the handoff (total transmission power is not changed; with some traffic channels decreasing transmission power [fig. 2, col. 3 lines 46-65, col. 6 lines 6-14]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while

increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 30**, the combination of Chheda et al. and Jalali et al., as modified by Moon, clearly shows and discloses the claimed invention **as applied to claim 29 above**, and in addition, Moon further discloses the power gain of other channels in relation to the pilot channel is decreased by an amount that is equal to an amount by which the pilot channel transmit power level is increased (the mobile station increases transmission power of the pilot channel by ΔP; it is also possible to assign the total transmission power pf the mobile station to the pilot channel [col. 3 lines 46-65]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 31**, the combination of Chheda et al. and Jalali et al., as modified by Moon, clearly shows and discloses the claimed invention **as applied to claim 29 above**, and in addition, Moon further discloses the power gain of other channels in relation to the pilot channel is decreased by an amount that is more than an amount by which the pilot channel transmit power level is increased (the increased total transmission power of the mobile station can be either equal or different than the

increased transmission power of the pilot channel; only the pilot channel is transmitted and the traffic channel is not transmitted [col. 4 lines 40-67]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 33**, Chheda et al. clearly show and disclose an apparatus comprising: means for detecting an unbalanced quality of power control signals from a wireless device simultaneously received at a plurality of base station transceivers involved in a soft handover, wherein the unbalanced quality is determined based on qualifies of power control signals from each of the plurality of base station transceivers involved in the soft handoff (BTS sending forward link signals to MS and receiving power control channel signals; each of the BTSs sends the bit energy to noise density estimate and current transmit power to a central location such as BSC; if any output powers incremental difference are found to exceed a predetermined threshold, these BTSs are instructed to use power output of the BTS(x) (the best) [col. 1 lines 15-28, col. 2 lines 37-53, col. 4 line 60- col. 5 line 33]).

However, Chheda et al. fail to specifically disclose that the SNR of a pilot channel is increased.

In the same field of endeavor, Jalali et al. clearly show and disclose increasing a target signal-to-noise ratio (SNR) of a reverse link pilot channel carrying at least one of

the power control signals for at least one of the plurality of base station transceivers when the quality of the at least one of the power control signals for the at least one of the plurality of base station transceivers is below a predefined target signal quality (quality (in order to modify the target E.sub.s /N.sub.o, the quality of each received frame is determined; if the particular received frame was bad, the target is increased a predetermined amount; a reverse link pilot channel is employed to perform coherent demodulation of the reverse power control signaling; power change commands are transmitted using a reverse power control signaling [fig. 1, col. 6 lines 38-66]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the energy to noise density based on quality of the received frame from the base station as taught by Jalali et al. in the method of Chheda et al., in order to implement power control during a soft handoff.

However, Chheda et al., as modified by Jalali et al., fail to increase the transmit power level of the pilot channel from the wireless device decrease a power gain of other channels.

In the same field of endeavor, Moon clearly shows and discloses means for increasing a pilot channel transmit power level of the pilot channel transmitted by the wireless device during a handoff in response to the at least one of the plurality of base station transceivers (mobile station increases transmission power [fig. 2, col. 3 lines 46-65, col. 6 lines 6-14]); and means for decreasing a power gain of other channels transmitted by the wireless device in relation to the increased transmit power level of the pilot channel of the wireless device during the handoff (total transmission power is not

changed; with some traffic channels decreasing transmission power [fig. 2, col. 3 lines 46-65, col. 6 lines 6-14]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 34**, the combination of Chheda et al. and Jalali et al., as modified by Moon, clearly shows and discloses the claimed invention **as applied to claim 33 above**, and in addition, Moon further discloses the power gain of other channels in relation to the pilot channel is decreased by an amount that is equal to an amount by which the pilot channel transmit power level is increased (the mobile station increases transmission power of the pilot channel by ΔP; it is also possible to assign the total transmission power pf the mobile station to the pilot channel [col. 3 lines 46-65]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 35**, the combination of Chheda et al. and Jalali et al., as modified by Moon, clearly shows and discloses the claimed invention **as applied to claim 33 above**, and in addition, Moon further discloses the power gain of other channels in

relation to the pilot channel is decreased by an amount that is more than an amount by which the pilot channel transmit power level is increased (the increased total transmission power of the mobile station can be either equal or different than the increased transmission power of the pilot channel; only the pilot channel is transmitted and the traffic channel is not transmitted [col. 4 lines 40-67]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 37**, Chheda et al. clearly show and disclose a computer readable media embodying a method, comprising: detecting an unbalanced quality of power control signals from a wireless device simultaneously received at a plurality of base station transceivers involved in a soft handover, wherein the unbalanced quality is determined based on qualifies of power control signals from each of the plurality of base station transceivers involved in the soft handoff (BTS sending forward link signals to MS and receiving power control channel signals; each of the BTSs sends the bit energy to noise density estimate and current transmit power to a central location such as BSC; if any output powers incremental difference are found to exceed a predetermined threshold, these BTSs are instructed to use power output of the BTS(x) (the best) [fig. 1, col. 1 lines 15-28, col. 2 lines 37-53, col. 4 line 60- col. 5 line 33] wherein since the

method is implemented using decision blocks, it is obvious that a media embodying the method is present).

However, Chheda et al. fail to specifically disclose that the SNR of a pilot channel is increased.

In the same field of endeavor, Jalali et al. clearly show and disclose increasing a target signal-to-noise ratio (SNR) of a pilot channel carrying at least one of the power control signals for at least one of the plurality of base station transceivers when the quality of the at least one of the power control signals for the at least one of the plurality of base station transceivers is below a predefined target signal quality (in order to modify the target E.sub.s /N.sub.o, the quality of each received frame is determined; if the particular received frame was bad, the target is increased a predetermined amount; a reverse link pilot channel is employed to perform coherent demodulation of the reverse power control signaling; power change commands are transmitted using a reverse power control signaling [fig. 1, col. 6 lines 38-66]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the energy to noise density based on quality of the received frame from the base station as taught by Jalali et al. in the method of Chheda et al., in order to implement power control during a soft handoff.

However, Chheda et al., as modified by Jalali et al., fail to increase the transmit power level of the pilot channel from the wireless device decrease a power gain of other channels.

In the same field of endeavor, Moon clearly shows and discloses increasing a pilot channel transmit power level of the pilot channel transmitted by the wireless device during a handoff in response to the at least one of the plurality of base station transceivers (mobile station increases transmission power [fig. 2, col. 3 lines 46-65, col. 6 lines 6-14]); and decreasing a power gain of other channels transmitted by the wireless device in relation to the increased transmit power level of the pilot channel of the wireless device during the handoff (total transmission power is not changed; with some traffic channels decreasing transmission power [fig. 2, col. 3 lines 46-65, col. 6 lines 6-14]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 38**, the combination of Chheda et al. and Jalali et al., as modified by Moon, clearly shows and discloses the claimed invention **as applied to claim 37 above**, and in addition, Moon further discloses the power gain of other channels in relation to the pilot channel is decreased by an amount that is equal to an amount by which the pilot channel transmit power level is increased (the mobile station increases transmission power of the pilot channel by ΔP; it is also possible to assign the total transmission power pf the mobile station to the pilot channel [col. 3 lines 46-65]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Consider **claim 39**, the combination of Chheda et al. and Jalali et al., as modified by Moon, clearly shows and discloses the claimed invention **as applied to claim 37 above**, and in addition, Moon further discloses the power gain of other channels in relation to the pilot channel is decreased by an amount that is more than an amount by which the pilot channel transmit power level is increased (the increased total transmission power of the mobile station can be either equal or different than the increased transmission power of the pilot channel; only the pilot channel is transmitted and the traffic channel is not transmitted [col. 4 lines 40-67]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to decreasing a power gain of other channels while increasing the power of the reverse pilot signal as taught by Moon in the method of Chheda et al., as modified by Jalali et al., in order to implement power control during a soft handoff.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAIME M. HOLLIDAY whose telephone number is (571)272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jaime M Holliday/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617